

SEQUENCE LISTING

<110> SAVITZKY et al.

<120> ALTERNATIVE SPLICING VARIANTS

<130> 2786-0151P

<140> US 09/569,611

<141> 2000-05-10

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<170> PatentIn Ver. 2.0

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<211> 1905

<212> DNA

<213> Homo sapiens

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<211> 1952

<212> DNA

<213> Homo sapiens

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<211> 2690

<212> DNA

<213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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<211> 594

<212> DNA

<213> Homo sapiens



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<211> 3166

<212> DNA

<213> Homo sapiens

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<211> 1430

<212> DNA

<213> Homo sapiens

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<211> 678

<212> DNA

<213> Homo sapiens

<400> 14

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<212> DNA

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<211> 635

<212> DNA

<213> Homo sapiens

<400> 16

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<211> 814

<212> DNA

<213> Homo sapiens

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<210> 18

<211> 1868

<212> DNA

<213> Homo sapiens

<400> 18

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<210> 19

<211> 1140

<212> DNA

<213> Homo sapiens

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<211> 963

<212> DNA

<213> Homo sapiens

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&lt;210&gt; 21

&lt;211&gt; 1444

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 21

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<211> 1264

<212> DNA

<213> Homo sapiens

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<211> 883

<212> DNA

<213> Homo sapiens

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<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (96)..(96)

<223> n is a, c, g, or t

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ctggccacca ttcattggcat gaaccggcct ttcctgcttc tcatggccac cccgctggag 480  
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<210> 25

<211> 952

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (27)..(27)

<223> n is a, c, g, or t

<220>

<221> misc\_feature

<222> (941)..(941)

<223> n is a, c, g, or t

<400> 25

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 gtgaaggatt cagttagtgt atgtggggtc gtgacaccat ctaccactg tctctctcct 180  
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 ctggcaccca gcgactcgcc agagtgggta tcttttgatg tcaccggagt tgtgcggcag 300  
 tggttgagcc gtggagggga aattgagggc tttgcctta gcgccactg ctctgtgac 360  
 agcagggata acacactgca agtggacatc aacgggttca ctaccggccg ccgaggtgac 420

ctggccacca ttcattggcat gaaccggcct ttcctgcttc tcatggccac cccgctggag 480  
 agggcccagc atctgcaaag ctcccggcac cgccgagccc tggacaccaa ctattgcttc 540  
 agctccacgg agaagaactg ctgctgctgg cagctgtaca ttgacttccg caaggacctc 600  
 ggctggaagt ggatccacga gcccaagggc taccatgcca acttctgctt cgggcccctgc 660  
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<210> 26

<211> 756

<212> DNA

<213> Homo sapiens

<400> 26

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 agctgcagat gacaatactg acccaccaca ttatgaagaa acctcttttg gggatgaagc 180  
 tcagaaaaga ctcagaatca gctttaggcc tgggaatcag gagtgtatg acaatttcct 240  
 ccacagtgga gaaactgcta aaacagatgc cagttttcac gcttatgatt ctacacaaa 300  
 cacatactat ctacaaaactt ttggccacaa caccatggat gccgttccca agatagagta 360  
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 catgctcttc attgcctct cctggattgt tggagaagct ggaattgagt atccttcttg 660  
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<210> 27

<211> 208

<212> PRT

<213> Homo sapiens

<400> 27

Ala Leu Gly Gly Thr Pro Met Leu Gly Lys Leu Ala Met Leu Leu Trp

1 5 10 15

Val Gln Gln Ala Leu Leu Ala Leu Leu Leu Pro Thr Leu Leu Ala Gln

20 25 30

Gly Glu Ala Arg Arg Ser Arg Asn Thr Thr Arg Pro Ala Leu Leu Arg

35 40 45

Leu Ser Asp Tyr Leu Leu Thr Asn Tyr Arg Lys Gly Val Arg Pro Val

50 55 60

Arg Asp Trp Arg Lys Pro Thr Thr Val Ser Ile Asp Val Ile Val Tyr

65 70 75 80

Ala Ile Leu Asn Val Asp Glu Lys Asn Gln Val Leu Thr Thr Tyr Ile

85 90 95

Trp Tyr Arg Gln Tyr Trp Thr Asp Glu Phe Leu Gln Trp Asn Pro Glu

100 105 110

Asp Phe Asp Asn Ile Thr Lys Leu Ser Ile Pro Thr Asp Ser Ile Trp

115

120

125

Val Pro Asp Ile Leu Ile Asn Glu Phe Val Asp Val Gly Lys Ser Pro

130

135

140

Asn Ile Pro Tyr Val Tyr Ile Arg His Gln Gly Glu Val Gln Asn Tyr

145

150

155

160

Lys Pro Leu Gln Val Val Thr Ala Cys Ser Leu Asp Ile Tyr Asn Phe

165

170

175

Pro Phe Asp Val Gln Asn Cys Ser Leu Thr Phe Thr Ser Trp Leu His

180

185

190

Thr Thr Gln Tyr Phe Thr Ser Ser Leu Cys Arg Leu Pro Asp Lys Val

195

200

205

<210> 28

<211> 210

<212> PRT

<213> Homo sapiens

<400> 28

Asn Ser Gly Ser Leu Pro Leu Ser Glu Leu Gly Lys Leu Ala Met Leu

1	5	10	15
Leu Trp Val Gln Gln Ala Leu Leu Ala Leu Leu Leu Pro Thr Leu Leu			
20	25	30	
Ala Gln Gly Glu Ala Arg Arg Ser Arg Asn Thr Thr Arg Pro Ala Leu			
35	40	45	
Leu Arg Leu Ser Asp Tyr Leu Leu Thr Asn Tyr Arg Lys Gly Val Arg			
50	55	60	
Pro Val Arg Asp Trp Arg Lys Pro Thr Thr Val Ser Ile Asp Val Ile			
65	70	75	80
Val Tyr Ala Ile Leu Asn Val Asp Glu Lys Asn Gln Val Leu Thr Thr			
85	90	95	
Tyr Ile Trp Tyr Arg Gln Tyr Trp Thr Asp Glu Phe Leu Gln Trp Asn			
100	105	110	
Pro Glu Asp Phe Asp Asn Ile Thr Lys Leu Ser Ile Pro Thr Asp Ser			
115	120	125	
Ile Trp Val Pro Asp Ile Leu Ile Asn Glu Phe Val Asp Val Gly Lys			
130	135	140	
Ser Pro Asn Ile Pro Tyr Val Tyr Ile Arg His Gln Gly Glu Val Gln			
145	150	155	160

Asn Tyr Lys Pro Leu Gln Val Val Thr Ala Cys Ser Leu Asp Ile Tyr

165

170

175

Asn Phe Pro Phe Asp Val Gln Asn Cys Ser Leu Thr Phe Thr Ser Trp

180

185

190

Leu His Thr Thr Gln Tyr Phe Thr Ser Ser Leu Cys Arg Leu Pro Asp

195

200

205

Lys Val

210

<210> 29

<211> 169

<212> PRT

<213> Homo sapiens

<400> 29

Lys Asn Arg Glu Gly Arg Ala Ser Val Thr Gly Cys Leu Ala Asp Leu

1

5

10

15

Gln Gln Ser Asp Ser Asp Arg Ile Met Ala Met Met Glu Val Gln Gly

20

25

30

Gly Pro Ser Leu Gly Gln Thr Cys Val Leu Ile Val Ile Phe Thr Val

35

40

45

Leu Leu Gln Ser Leu Cys Val Ala Val Thr Tyr Val Tyr Phe Thr Asn

50

55

60

Glu Leu Lys Gln Met Gln Asp Lys Tyr Ser Lys Ser Gly Ile Ala Cys

65

70

75

80

Phe Leu Lys Glu Asp Asp Ser Tyr Trp Asp Pro Asn Asp Glu Glu Ser

85

90

95

Met Asn Ser Pro Cys Trp Gln Val Lys Trp Gln Leu Arg Gln Leu Val

100

105

110

Arg Lys Met Ile Leu Arg Thr Ser Glu Glu Thr Ile Ser Thr Val Gln

115

120

125

Glu Lys Gln Gln Asn Ile Ser Pro Leu Val Arg Glu Arg Gly Pro Gln

130

135

140

Arg Val Ala Ala His Ile Thr Gly Thr Arg Gly Arg Ser Asn Thr Leu

145

150

155

160

Ser Ser Pro Asn Ser Arg Arg Ile Val

165

<210> 30

<211> 271

<212> PRT

<213> Homo sapiens

<400> 30

Lys Asn Arg Glu Gly Arg Ala Ser Val Thr Gly Cys Leu Ala Asp Leu

1 5 10 15

Gln Gln Ser Asp Ser Asp Arg Ile Met Ala Met Met Glu Val Gln Gly

20 25 30

Gly Pro Ser Leu Gly Gln Thr Cys Val Leu Ile Val Ile Phe Thr Val

35 40 45

Leu Leu Gln Ser Leu Cys Val Ala Val Thr Tyr Val Tyr Phe Thr Asn

50 55 60

Glu Leu Lys Gln Met Gln Asp Lys Tyr Ser Lys Ser Gly Ile Ala Cys

65 70 75 80

Phe Leu Lys Glu Asp Asp Ser Tyr Trp Asp Pro Asn Asp Glu Glu Ser

85 90 95

Met Asn Ser Pro Cys Trp Gln Val Lys Trp Gln Leu Arg Gln Leu Val

100 105 110

Arg Lys Lys Ser Asn Lys Ile Phe Leu Pro Leu Val Arg Glu Arg Gly

115 120 125

Pro Gln Arg Val Ala Ala His Ile Thr Gly Thr Arg Gly Arg Ser Asn

130 135 140

Thr Leu Ser Ser Pro Asn Ser Lys Asn Glu Lys Ala Leu Gly Arg Lys  
145 150 155 160

Ile Asn Ser Trp Glu Ser Ser Arg Ser Gly His Ser Phe Leu Ser Asn  
165 170 175

Leu His Leu Arg Asn Gly Glu Leu Val Ile His Glu Lys Gly Phe Tyr  
180 185 190

Tyr Ile Tyr Ser Gln Thr Tyr Phe Arg Phe Gln Glu Glu Ile Lys Glu  
195 200 205

Asn Thr Lys Asn Asp Lys Gln Met Val Gln Tyr Ile Tyr Lys Tyr Thr  
210 215 220

Ser Tyr Pro Asp Pro Ile Leu Leu Met Lys Ser Ala Arg Asn Ser Cys  
225 230 235 240

Trp Ser Lys Asp Ala Glu Tyr Gly Leu Tyr Ser Ile Tyr Gln Gly Ile  
245 250 255

Asp Met Asp His Glu Ala Ser Phe Phe Gly Ala Phe Leu Val Gly  
260 265 270

<210> 31

<211> 122

<212> PRT

<213> Homo sapiens

<400> 31

Lys Asn Arg Glu Gly Arg Ala Ser Val Thr Gly Cys Leu Ala Asp Leu

1 5 10 15

Gln Gln Ser Asp Ser Asp Arg Ile Met Ala Met Met Glu Val Gln Gly

20 25 30

Gly Pro Ser Leu Gly Gln Thr Cys Val Leu Ile Val Ile Phe Thr Val

35 40 45

Leu Leu Gln Ser Leu Cys Val Ala Val Thr Tyr Val Tyr Phe Thr Asn

50 55 60

Glu Leu Lys Gln Met Gln Asp Lys Tyr Ser Lys Ser Gly Ile Ala Cys

65 70 75 80

Phe Leu Lys Glu Asp Asp Ser Tyr Trp Asp Pro Asn Asp Glu Glu Ser

85 90 95

Met Asn Ser Pro Cys Trp Gln Val Lys Trp Gln Leu Arg Gln Leu Val

100 105 110

Arg Lys Lys Ser Asn Lys Ile Phe Leu Pro

115 120



<210> 32

<211> 120

<212> PRT

<213> Homo sapiens

<400> 32

Lys Asn Arg Glu Gly Arg Ala Ser Val Thr Gly Cys Leu Ala Asp Leu

1 5 10 15

Gln Gln Ser Asp Ser Asp Arg Ile Met Ala Met Met Glu Val Gln Gly

20 25 30

Gly Pro Ser Leu Gly Gln Thr Cys Val Leu Ile Val Ile Phe Thr Val

35 40 45

Leu Leu Gln Ser Leu Cys Val Ala Val Thr Tyr Val Tyr Phe Thr Asn

50 55 60

Glu Leu Lys Gln Met Gln Asp Lys Tyr Ser Lys Ser Gly Ile Ala Cys

65 70 75 80

Phe Leu Lys Glu Asp Asp Ser Tyr Trp Asp Pro Asn Asp Glu Glu Ser

85 90 95

Met Asn Ser Pro Cys Trp Gln Val Lys Trp Gln Leu Arg Gln Leu Val

100 105 110

Arg Lys Val Gly Asn Leu Thr Arg

&lt;210&gt; 33

&lt;211&gt; 218

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 33

Leu Ala Arg Ala Pro Ser Gly Pro Ala Ala Trp Ser His Leu Ala Met  
 1 5 10 15

Val Arg Leu Pro Leu Gln Cys Val Leu Trp Gly Cys Leu Leu Thr Ala  
 20 25 30

Val His Pro Glu Pro Pro Thr Ala Cys Arg Glu Lys Gln Tyr Leu Ile  
 35 40 45

Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val Ser  
 50 55 60

Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu Ser  
 65 70 75 80

Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His Lys  
 85 90 95

Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr Ser  
 100 105 110

Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr Ser  
 115 120 125

Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly Phe  
 130 135 140

Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu Pro  
 145 150 155 160

Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys Cys  
165 170 175

His Pro Trp Thr Arg Ser Pro Gly Ser Ala Glu Ser Pro Gly Gly Asp  
180 185 190

Pro His His Leu Arg Asp Pro Val Cys His Pro Leu Gly Ala Gly Leu  
195 200 205

Tyr Gln Lys Gly Gly Gln Glu Ala Asn Gln  
210 215

<210> 34

<211> 198

<212> PRT

<213> Homo sapiens

<400> 34

Gly Arg Ala Arg Ser Thr Gln Arg Glu Glu Ala Gly Glu Gly Ala Arg  
1 5 10 15

Ser Arg Glu Lys Ala Thr Arg Pro Lys Leu Lys Lys Met Lys Ser Gln  
20 25 30

Thr Gly Gln Val Gly Glu Lys Gln Ser Leu Lys Cys Glu Ala Ala Ala  
35 40 45

Gly Asn Pro Gln Pro Ser Tyr Arg Trp Phe Lys Asp Gly Lys Glu Leu  
50 55 60

Asn Arg Ser Arg Asp Ile Arg Ile Lys Tyr Gly Asn Gly Arg Lys Asn

65

70

75

80

Ser Arg Leu Gln Phe Asn Lys Val Lys Val Glu Asp Ala Gly Glu Tyr

85

90

95

Val Cys Glu Ala Glu Asn Ile Leu Gly Lys Asp Thr Val Arg Gly Arg

100

105

110

Leu Tyr Val Asn Ser Val Ser Thr Thr Leu Ser Ser Trp Ser Gly His

115

120

125

Ala Arg Lys Cys Asn Glu Thr Ala Lys Ser Tyr Cys Val Asn Gly Gly

130

135

140

Val Cys Tyr Tyr Ile Glu Gly Ile Asn Gln Leu Ser Cys Lys Ala Pro

145

150

155

160

Gly Leu His Cys Leu Glu Leu Gly Thr Gln Ser His His Phe Pro Ile

165

170

175

Ser Ala Ser Pro Gly Ser Ser Gln Gly Ser Trp Asn Gln Leu Pro Gln

180

185

190

His Pro Leu Ser Ala Leu

195

&lt;210&gt; 35

&lt;211&gt; 637

<212> PRT

<213> Homo sapiens

<400> 35

Gly Arg Ala Arg Ser Thr Gln Arg Glu Glu Ala Gly Glu Gly Ala Arg

1 5 10 15

Ser Arg Glu Lys Ala Thr Arg Pro Lys Leu Lys Lys Met Lys Ser Gln

20 25 30

Thr Gly Gln Val Gly Glu Lys Gln Ser Leu Lys Cys Glu Ala Ala Ala

35 40 45

Gly Asn Pro Gln Pro Ser Tyr Arg Trp Phe Lys Asp Gly Lys Glu Leu

50 55 60

Asn Arg Ser Arg Asp Ile Arg Ile Lys Tyr Gly Asn Gly Arg Lys Asn

65 70 75 80

Ser Arg Leu Gln Phe Asn Lys Val Lys Val Glu Asp Ala Gly Glu Tyr

85 90 95

Val Cys Glu Ala Glu Asn Ile Leu Gly Lys Asp Thr Val Arg Gly Arg

100 105 110

Leu Tyr Val Asn Ser Val Ser Thr Thr Leu Ser Ser Trp Ser Gly His

115 120 125

Ala Arg Lys Cys Asn Glu Thr Ala Lys Ser Tyr Cys Val Asn Gly Gly

130

135

140

Val Cys Tyr Tyr Ile Glu Gly Ile Asn Gln Leu Ser Cys Lys Cys Pro

145

150

155

160

Asn Gly Phe Phe Gly Gln Arg Cys Leu Glu Lys Leu Pro Leu Arg Leu

165

170

175

Tyr Met Pro Asp Pro Lys Gln Lys Ala Glu Glu Leu Tyr Gln Lys Arg

180

185

190

Val Leu Thr Ile Thr Gly Ile Cys Val Ala Leu Leu Val Val Gly Ile

195

200

205

Val Cys Val Val Ala Tyr Cys Lys Thr Lys Lys Gln Arg Lys Gln Met

210

215

220

His Asn His Leu Arg Gln Asn Met Cys Pro Ala His Gln Asn Arg Ser

225

230

235

240

Leu Ala Asn Gly Pro Ser His Pro Arg Leu Asp Pro Glu Glu Ile Gln

245

250

255

Met Ala Asp Tyr Ile Ser Lys Asn Val Pro Ala Thr Asp His Val Ile

260

265

270

Arg Arg Glu Thr Glu Thr Thr Phe Ser Gly Ser His Ser Cys Ser Pro

275

280

285

Ser His His Cys Ser Thr Ala Thr Pro Thr Ser Ser His Arg His Glu  
290 295 300

Ser His Thr Trp Ser Leu Glu Arg Ser Glu Ser Leu Thr Ser Asp Ser  
305 310 315 320

Gln Ser Gly Ile Met Leu Ser Ser Val Gly Thr Ser Lys Cys Asn Ser  
325 330 335

Pro Ala Cys Val Glu Ala Arg Ala Arg Arg Ala Ala Ala Tyr Asn Leu  
340 345 350

Glu Glu Arg Arg Arg Ala Thr Ala Pro Pro Tyr His Asp Ser Val Asp  
355 360 365

Ser Leu Arg Asp Ser Pro His Ser Glu Arg Tyr Val Ser Ala Leu Thr  
370 375 380

Thr Pro Ala Arg Leu Ser Pro Val Asp Phe His Tyr Ser Leu Ala Thr  
385 390 395 400

Gln Val Pro Thr Phe Glu Ile Thr Ser Pro Asn Ser Ala His Ala Val  
405 410 415

Ser Leu Pro Pro Ala Ala Pro Ile Ser Tyr Arg Leu Ala Glu Gln Gln  
420 425 430

Pro Leu Leu Arg His Pro Ala Pro Pro Gly Pro Gly Pro Gly Pro Gly  
435 440 445

Pro Gly Pro Gly Pro Gly Ala Asp Met Gln Arg Ser Tyr Asp Ser Tyr  
450 455 460

Tyr Tyr Pro Ala Ala Gly Pro Gly Pro Arg Arg Gly Thr Cys Ala Leu  
465 470 475 480

Gly Gly Ser Leu Gly Ser Leu Pro Ala Ser Pro Phe Arg Ile Pro Glu  
485 490 495

Asp Asp Glu Tyr Glu Thr Thr Gln Glu Cys Ala Pro Pro Pro Pro Pro  
500 505 510

Arg Pro Arg Ala Arg Gly Ala Ser Arg Arg Thr Ser Ala Gly Pro Arg  
515 520 525

Arg Trp Arg Arg Ser Arg Leu Asn Gly Leu Ala Ala Gln Arg Ala Arg  
530 535 540

Ala Ala Arg Asp Ser Leu Ser Leu Ser Ser Gly Ser Gly Gly Gly Ser  
545 550 555 560

Ala Ser Ala Ser Asp Asp Asp Ala Asp Asp Ala Asp Gly Ala Leu Ala  
565 570 575

Ala Glu Ser Thr Pro Phe Leu Gly Leu Arg Gly Ala His Asp Ala Leu  
580 585 590



Arg Ser Asp Ser Pro Pro Leu Cys Pro Ala Ala Asp Ser Arg Thr Tyr

595

600

605

Tyr Ser Leu Asp Ser His Ser Thr Arg Ala Ser Ser Arg His Ser Arg

610

615

620

Gly Pro Pro Pro Arg Ala Lys Gln Asp Ser Ala Pro Leu

625

630

635

<210> 36

<211> 421

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (74)..(74)

<223> Xaa = any amino acid, unknown or other

<400> 36

Ala Ala Glu Pro Pro Lys Trp Pro Gly Gln Met Arg Gln Val Cys Cys

1

5

10

15

Ser Ala Leu Pro Pro Pro Pro Leu Glu Lys Gly Arg Cys Ser Ser Tyr

20

25

30

Ser Asp Ser Ser Ser Ser Ser Ser Glu Arg Ser Ser Ser Ser Ser

35

40

45

Ser Ser Ser Glu Ser Gly Ser Ser Ser Arg Ser Ser Ser Asn Asn Ser  
50 55 60

Ser Ile Ser Arg Pro Ala Ala Pro Pro Xaa Pro Arg Pro Gln Gln Gln  
65 70 75 80

Pro Gln Pro Arg Ser Pro Ala Ala Arg Arg Ala Ala Ala Arg Ser Arg  
85 90 95

Ala Ala Ala Ala Gly Gly Met Arg Arg Asp Pro Ala Pro Gly Phe Ser  
100 105 110

Met Leu Leu Phe Gly Val Ser Leu Ala Cys Tyr Ser Pro Ser Leu Lys  
115 120 125

Ser Val Gln Asp Gln Ala Tyr Lys Ala Pro Val Val Val Glu Gly Lys  
130 135 140

Val Gln Gly Leu Val Pro Ala Gly Gly Ser Ser Ser Asn Ser Thr Arg  
145 150 155 160

Glu Pro Pro Ala Ser Gly Arg Val Ala Leu Val Lys Val Leu Asp Lys  
165 170 175

Trp Pro Leu Arg Ser Gly Gly Leu Gln Arg Glu Gln Val Ile Ser Val  
180 185 190

Gly Ser Cys Val Pro Leu Glu Arg Asn Gln Arg Tyr Ile Phe Phe Leu

195	200	205
Glu Pro Thr Glu Gln Pro Leu Val Phe Lys Thr Ala Phe Ala Pro Leu		
210	215	220
Asp Thr Asn Gly Lys Asn Leu Lys Lys Glu Val Gly Lys Ile Leu Cys		
225	230	235 240
Thr Asp Cys Ala Thr Arg Pro Lys Leu Lys Lys Met Lys Ser Gln Thr		
245	250	255
Gly Gln Val Gly Glu Lys Gln Ser Leu Lys Cys Glu Ala Ala Ala Gly		
260	265	270
Asn Pro Gln Pro Ser Tyr Arg Trp Phe Lys Asp Gly Lys Glu Leu Asn		
275	280	285
Arg Ser Arg Asp Ile Arg Ile Lys Tyr Gly Asn Gly Arg Lys Asn Ser		
290	295	300
Arg Leu Gln Phe Asn Lys Val Lys Val Glu Asp Ala Gly Glu Tyr Val		
305	310	315 320
Cys Glu Ala Glu Asn Ile Leu Gly Lys Asp Thr Val Arg Gly Arg Leu		
325	330	335
Tyr Val Asn Ser Val Ser Thr Thr Leu Ser Ser Trp Ser Gly His Ala		
340	345	350

Arg Lys Cys Asn Glu Thr Ala Lys Ser Tyr Cys Val Asn Gly Gly Val

355

360

365

Cys Tyr Tyr Ile Glu Gly Ile Asn Gln Leu Ser Cys Lys Ala Pro Gly

370

375

380

Leu His Cys Leu Glu Leu Gly Thr Gln Ser His His Phe Pro Ile Ser

385

390

395

400

Ala Ser Pro Gly Ser Ser Gln Gly Ser Trp Asn Gln Leu Pro Gln His

405

410

415

Pro Leu Ser Ala Leu

420

<210> 37

<211> 270

<212> PRT

<213> Homo sapiens

<400> 37

Tyr Pro Ala Ser Ile Val Ser Lys Ser Ser Thr Val Met Thr Leu Trp

1

5

10

15

Glu Ile Leu Val Val Cys Pro Ser Pro Leu Trp Ile Asn Leu Gln Val

20

25

30

Ser Trp Ile Val Thr Gly Leu Ser Ser Phe Cys Pro Gly Lys Ile Gln

35

40

45

Val Asn Ser Thr Ser Lys Thr Gly Ser Thr Tyr Ile Phe Phe Thr Glu

50

55

60

Lys Gly Glu Leu Phe Val Pro Ser Pro Ser Tyr Phe Asp Val Val Tyr

65

70

75

80

Leu Asn Pro Asp Arg Gln Ala Val Val Pro Cys Arg Val Thr Val Leu

85

90

95

Ser Ala Lys Val Thr Leu His Arg Glu Phe Pro Ala Lys Glu Ile Pro

100

105

110

Ala Asn Gly Thr Asp Ile Val Tyr Asp Met Lys Arg Gly Phe Val Tyr

115

120

125

Leu Gln Pro His Ser Glu His Gln Gly Val Val Tyr Cys Arg Ala Glu

130

135

140

Ala Gly Gly Arg Ser Gln Ile Ser Val Lys Tyr Gln Leu Leu Tyr Val

145

150

155

160

Ala Val Pro Ser Gly Pro Pro Ser Thr Thr Ile Leu Ala Ser Ser Asn

165

170

175

Lys Val Lys Ser Gly Asp Asp Ile Ser Val Leu Cys Thr Val Leu Gly

180

185

190

Glu Pro Asp Val Glu Val Glu Phe Thr Trp Ile Phe Pro Gly Gln Lys

195

200

205

Asp Glu Arg Pro Val Thr Ile Gln Asp Thr Trp Arg Leu Ile His Arg

210

215

220

Gly Leu Gly His Thr Thr Arg Ile Ser Gln Ser Val Ile Thr Val Glu

225

230

235

240

Asp Phe Glu Thr Ile Asp Ala Gly Tyr Tyr Ile Cys Thr Ala Gln Asn

245

250

255

Leu Gln Gly Gln Thr Thr Val Ala Thr Thr Val Glu Phe Ser

260

265

270

<210> 38

<211> 223

<212> PRT

<213> Homo sapiens

<400> 38

Lys Asn Gln Phe Trp Lys Met Ser Leu Asn Asn Ser Ser Asn Val Phe

1

5

10

15

Leu Asp Ser Val Pro Ser Asn Thr Asn Arg Phe Gln Val Ser Val Ile

20

25

30

Asn Glu Asn His Glu Ser Ser Ala Ala Ala Asp Asp Asn Thr Asp Pro

35

40

45

Pro His Tyr Glu Glu Thr Ser Phe Gly Asp Glu Ala Gln Lys Arg Leu

50

55

60

Arg Ile Ser Phe Arg Pro Gly Asn Gln Glu Cys Tyr Asp Asn Phe Leu

65

70

75

80

His Ser Gly Glu Thr Ala Lys Thr Asp Ala Ser Phe His Ala Tyr Asp

85

90

95

Ser His Thr Asn Thr Tyr Tyr Leu Gln Thr Phe Gly His Asn Thr Met

100

105

110

Asp Ala Val Pro Lys Ile Glu Tyr Tyr Arg Asn Thr Gly Ser Ile Ser

115

120

125

Gly Pro Lys Val Asn Arg Pro Ser Leu Leu Glu Ile His Glu Gln Leu

130

135

140

Ala Lys Asn Val Ala Val Thr Pro Ser Ser Ala Asp Arg Val Ala Asn

145

150

155

160

Gly Asp Gly Ile Pro Gly Asp Glu Gln Ala Glu Asn Lys Glu Asp Asp

165

170

175

Gln Ala Gly Val Val Lys Phe Gly Trp Val Lys Gly Val Leu Val Arg

180

185

190

Cys Met Leu Asn Ile Trp Gly Val Met Leu Phe Ile Arg Leu Ser Trp

195

200

205

Ile Val Gly Glu Ala Gly Ile Glu Tyr Pro Ser Trp His Asp Trp

210

215

220

&lt;210&gt; 39

&lt;211&gt; 460

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 39

Met Ala Val Thr Gln Phe Ile His Phe Arg Glu Glu Ile Met Gly Asn

1

5

10

15

Met Phe Phe Ile Ile Ile Phe Ser Thr Lys Asp Lys Leu Cys Tyr Arg

20

25

30

Asp Gly Glu Glu Tyr Glu Trp Lys Glu Thr Ala Arg Trp Leu Lys Phe

35

40

45

Glu Glu Asp Val Glu Asp Gly Gly Asp Arg Trp Ser Lys Pro Tyr Val

50

55

60

Ala Thr Leu Ser Leu His Ser Leu Phe Glu Leu Arg Ser Cys Ile Leu



65	70	75	80
Asn Gly Thr Val Met Leu Asp Met Arg Ala Ser Thr Leu Asp Glu Ile			
	85	90	95
Ala Asp Met Val Leu Asp Asn Met Ile Ala Ser Gly Gln Leu Asp Glu			
100	105	110	
Ser Ile Arg Glu Asn Val Arg Glu Ala Leu Leu Lys Arg His His His			
115	120	125	
Gln Asn Glu Lys Arg Phe Thr Ser Arg Ile Pro Leu Val Arg Ser Phe			
130	135	140	
Ala Asp Ile Gly Lys Lys His Ser Asp Pro His Leu Leu Glu Arg Asn			
145	150	155	160
Gly Ile Leu Ala Ser Pro Gln Ser Ala Pro Gly Asn Leu Asp Asn Ser			
165	170	175	
Lys Ser Gly Glu Ile Lys Gly Asn Gly Ser Gly Gly Ser Arg Glu Asn			
180	185	190	
Ser Thr Val Asp Phe Ser Lys Val Asp Met Asn Phe Met Arg Lys Ile			
195	200	205	
Pro Thr Gly Ala Glu Ala Ser Asn Val Leu Val Gly Glu Val Asp Phe			
210	215	220	

Leu Glu Arg Pro Ile Ile Ala Phe Val Arg Leu Ala Pro Ala Val Leu  
225 230 235 240

Leu Thr Gly Leu Thr Glu Val Pro Val Pro Thr Arg Phe Leu Phe Leu  
245 250 255

Leu Leu Gly Pro Ala Gly Lys Ala Pro Gln Tyr His Glu Ile Gly Arg  
260 265 270

Ser Ile Ala Thr Leu Met Thr Asp Glu Ile Phe His Asp Val Ala Tyr  
275 280 285

Lys Ala Lys Asp Arg Asn Asp Leu Leu Ser Gly Ile Asp Glu Phe Leu  
290 295 300

Asp Gln Val Thr Val Leu Pro Pro Gly Glu Trp Asp Pro Ser Ile Arg  
305 310 315 320

Ile Glu Pro Pro Lys Ser Val Pro Ser Gln Glu Lys Arg Lys Ile Pro  
325 330 335

Val Phe His Asn Gly Ser Thr Pro Thr Leu Gly Glu Thr Pro Lys Glu  
340 345 350

Ala Ala His His Ala Gly Pro Glu Leu Gln Arg Thr Gly Arg Leu Phe  
355 360 365

Gly Gly Leu Ile Leu Asp Ile Lys Arg Lys Ala Pro Phe Phe Leu Ser

370

375

380

Asp Phe Lys Asp Ala Leu Ser Leu Gln Cys Leu Ala Ser Ile Leu Phe

385

390

395

400

Leu Tyr Cys Ala Cys Met Ser Pro Val Ile Thr Phe Gly Gly Leu Leu

405

410

415

Gly Glu Ala Thr Glu Gly Arg Ile Val Ser Thr Lys Ile Gly Ser Gly

420

425

430

Gln Ala Phe Ser Ser Ser Glu Ala Ser Val Cys Met His Leu Ser His

435

440

445

Tyr Ser Tyr Phe Tyr Leu Lys Ser Leu Pro Thr Ala

450

455

460

&lt;210&gt; 40

&lt;211&gt; 175

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 40

Met Ala Val Thr Gln Phe Ile His Phe Arg Glu Glu Ile Met Gly Asn

1

5

10

15

Met Phe Phe Ile Ile Ile Phe Ser Thr Lys Asp Lys Leu Cys Tyr Arg

20

25

30

Asp Gly Glu Glu Tyr Glu Trp Lys Glu Thr Ala Arg Trp Leu Lys Phe

35

40

45

Glu Glu Asp Val Glu Asp Gly Gly Asp Arg Trp Ser Lys Pro Tyr Val

50

55

60

Ala Thr Leu Ser Leu His Ser Leu Phe Glu Leu Arg Ser Cys Ile Leu

65

70

75

80

Asn Gly Thr Val Met Leu Asp Met Arg Ala Ser Thr Leu Asp Glu Ile

85

90

95

Ala Asp Met Val Leu Asp Asn Met Ile Ala Ser Gly Gln Leu Asp Glu

100

105

110

Ser Ile Arg Glu Asn Val Arg Glu Ala Leu Leu Lys Arg His His His

115

120

125

Gln Asn Glu Lys Arg Phe Thr Ser Arg Ile Pro Leu Val Arg Ser Phe

130

135

140

Ala Asp Ile Gly Lys Lys His Ser Asp Pro His Leu Leu Glu Arg Asn

145

150

155

160

Gly Glu Ile Ser Cys Gly Ile Gln Phe Leu Leu Thr Leu Leu Leu

165

170

175

<210> 41

<211> 922

<212> PRT

<213> Homo sapiens

<400> 41

Ile Asp Met Val Leu Asp Asn Met Ile Ala Ser Gly Gln Leu Asp Glu

1 5 10 15

Ser Ile Arg Glu Asn Val Arg Glu Ala Leu Leu Lys Arg His His His

20 25 30

Gln Asn Glu Lys Arg Phe Thr Ser Arg Ile Pro Leu Val Arg Ser Phe

35 40 45

Ala Asp Ile Gly Lys Lys His Ser Asp Pro His Leu Leu Glu Arg Asn

50 55 60

Gly Ile Leu Ala Ser Pro Gln Ser Ala Pro Gly Asn Leu Asp Asn Ser

65 70 75 80

Lys Ser Gly Glu Ile Lys Gly Asn Gly Ser Gly Gly Ser Arg Glu Asn

85 90 95

Ser Thr Val Asp Phe Ser Lys Val Asp Met Asn Phe Met Arg Lys Ile

100 105 110

Pro Thr Gly Ala Glu Ala Ser Asn Val Leu Val Gly Glu Val Asp Phe

115	120	125
Leu Glu Arg Pro Ile Ile Ala Phe Val Arg Leu Ala Pro Ala Val Leu		
130	135	140
Leu Thr Gly Leu Thr Glu Val Pro Val Pro Thr Arg Phe Leu Phe Leu		
145	150	155 160
Leu Leu Gly Pro Ala Gly Lys Ala Pro Gln Tyr His Glu Ile Gly Arg		
165	170	175
Ser Ile Ala Thr Leu Met Thr Asp Glu Ile Phe His Asp Val Ala Tyr		
180	185	190
Lys Ala Lys Asp Arg Asn Asp Leu Leu Ser Gly Ile Asp Glu Phe Leu		
195	200	205
Asp Gln Val Thr Val Leu Pro Pro Gly Glu Trp Asp Pro Ser Ile Arg		
210	215	220
Ile Glu Pro Pro Lys Ser Val Pro Ser Gln Glu Lys Arg Lys Ile Pro		
225	230	235 240
Val Phe His Asn Gly Ser Thr Pro Thr Leu Gly Glu Thr Pro Lys Glu		
245	250	255
Ala Ala His His Ala Gly Pro Glu Leu Gln Arg Thr Gly Arg Leu Phe		
260	265	270

Gly Gly Leu Ile Leu Asp Ile Lys Arg Lys Ala Pro Phe Phe Leu Ser

275

280

285

Asp Phe Lys Asp Ala Leu Ser Leu Gln Cys Leu Ala Ser Ile Leu Phe

290

295

300

Leu Tyr Cys Ala Cys Met Ser Pro Val Ile Thr Phe Gly Gly Leu Leu

305

310

315

320

Gly Glu Ala Thr Glu Gly Arg Ile Ser Ala Ile Glu Ser Leu Phe Gly

325

330

335

Ala Ser Leu Thr Gly Ile Ala Tyr Ser Leu Phe Ala Gly Gln Pro Leu

340

345

350

Thr Ile Leu Gly Ser Thr Gly Pro Val Leu Val Phe Glu Lys Ile Leu

355

360

365

Tyr Lys Phe Cys Arg Asp Tyr Gln Leu Ser Tyr Leu Ser Leu Arg Thr

370

375

380

Ser Ile Gly Leu Trp Thr Ser Phe Leu Cys Ile Val Leu Val Ala Thr

385

390

395

400

Asp Ala Ser Ser Leu Val Cys Tyr Ile Thr Arg Phe Thr Glu Glu Ala

405

410

415

Phe Ala Ala Leu Ile Cys Ile Ile Phe Ile Tyr Glu Ala Leu Glu Lys

420	425	430
Leu Phe Asp Leu Gly Glu Thr Tyr Ala Phe Asn Met His Asn Asn Leu		
435	440	445
Asp Lys Leu Thr Ser Tyr Ser Cys Val Cys Thr Glu Pro Pro Asn Pro		
450	455	460
Ser Asn Glu Thr Leu Ala Gln Trp Lys Lys Asp Asn Ile Thr Ala His		
465	470	475
Asn Ile Ser Trp Arg Asn Leu Thr Val Ser Glu Cys Lys Lys Leu Arg		
485	490	495
Gly Val Phe Leu Gly Ser Ala Cys Gly His His Gly Pro Tyr Ile Pro		
500	505	510
Asp Val Leu Phe Trp Cys Val Ile Leu Phe Phe Thr Thr Phe Phe Leu		
515	520	525
Ser Ser Phe Leu Lys Gln Phe Lys Thr Lys Arg Tyr Phe Pro Thr Lys		
530	535	540
Val Arg Ser Thr Ile Ser Asp Phe Ala Val Phe Leu Thr Ile Val Ile		
545	550	555
Met Val Thr Ile Asp Tyr Leu Val Gly Val Pro Ser Pro Lys Leu His		
565	570	575



Val Pro Glu Lys Phe Glu Pro Thr His Pro Glu Arg Gly Trp Ile Ile

580

585

590

Ser Pro Leu Gly Asp Asn Pro Trp Trp Thr Leu Leu Ile Ala Ala Ile

595

600

605

Pro Ala Leu Leu Cys Thr Ile Leu Ile Phe Met Asp Gln Gln Ile Thr

610

615

620

Ala Val Ile Ile Asn Arg Lys Glu His Lys Leu Lys Lys Gly Ala Gly

625

630

635

640

Tyr His Leu Asp Leu Leu Met Val Gly Val Met Leu Gly Val Cys Ser

645

650

655

Val Met Gly Leu Pro Trp Phe Val Ala Ala Thr Val Leu Ser Ile Ser

660

665

670

His Val Asn Ser Leu Lys Val Glu Ser Glu Cys Ser Ala Pro Gly Glu

675

680

685

Gln Pro Lys Phe Leu Gly Ile Arg Glu Gln Arg Val Thr Gly Leu Met

690

695

700

Ile Phe Ile Leu Met Gly Leu Ser Val Phe Met Thr Ser Val Leu Lys

705

710

715

720

Phe Ile Pro Met Pro Val Leu Tyr Gly Val Phe Leu Tyr Met Gly Val

725	730	735
Ser Ser Leu Lys Gly Ile Gln Leu Phe Asp Arg Ile Lys Leu Phe Gly		
740	745	750
Met Pro Ala Lys His Gln Pro Asp Leu Ile Tyr Leu Arg Tyr Val Pro		
755	760	765
Leu Trp Lys Val His Ile Phe Thr Val Ile Gln Leu Thr Cys Leu Val		
770	775	780
Leu Leu Trp Val Ile Lys Val Ser Ala Ala Ala Val Val Phe Pro Met		
785	790	795 800
Met Val Leu Ala Leu Val Phe Val Arg Lys Leu Met Asp Leu Cys Phe		
805	810	815
Thr Lys Arg Glu Leu Ser Trp Leu Asp Asp Leu Met Pro Glu Ser Lys		
820	825	830
Lys Lys Lys Glu Asp Asp Lys Lys Lys Lys Glu Lys Glu Glu Ala Glu		
835	840	845
Arg Met Leu Gln Asp Asp Asp Asp Thr Val His Leu Pro Phe Glu Gly		
850	855	860
Gly Ser Leu Leu Gln Ile Pro Val Lys Ala Leu Lys Tyr Ser Gly Asp		
865	870	875 880

Pro Ser Ile Gly Asn Ile Ser Asp Glu Met Ala Lys Thr Ala Gln Trp

885

890

895

Lys Ala Leu Ser Met Asn Thr Glu Asn Ala Lys Val Thr Arg Ser Asn

900

905

910

Met Ser Pro Asp Lys Pro Val Ser Val Lys

915

920

<210> 42

<211> 364

<212> PRT

<213> Homo sapiens

<400> 42

Ile Asp Met Val Leu Asp Asn Met Ile Ala Ser Gly Gln Leu Asp Glu

1

5

10

15

Ser Ile Arg Glu Asn Val Arg Glu Ala Leu Leu Lys Arg His His His

20

25

30

Gln Asn Glu Lys Arg Phe Thr Ser Arg Ile Pro Leu Val Arg Ser Phe

35

40

45

Ala Asp Ile Gly Lys Lys His Ser Asp Pro His Leu Leu Glu Arg Asn

50

55

60

Gly Ile Leu Ala Ser Pro Gln Ser Ala Pro Gly Asn Leu Asp Asn Ser  
65 70 75 80

Lys Ser Gly Glu Ile Lys Gly Asn Gly Ser Gly Gly Ser Arg Glu Asn  
85 90 95

Ser Thr Val Asp Phe Ser Lys Val Asp Met Asn Phe Met Arg Lys Ile  
100 105 110

Pro Thr Gly Ala Glu Ala Ser Asn Val Leu Val Gly Glu Val Asp Phe  
115 120 125

Leu Glu Arg Pro Ile Ile Ala Phe Val Arg Leu Ala Pro Ala Val Leu  
130 135 140

Leu Thr Gly Leu Thr Glu Val Pro Val Pro Thr Arg Phe Leu Phe Leu  
145 150 155 160

Leu Leu Gly Pro Ala Gly Lys Ala Pro Gln Tyr His Glu Ile Gly Arg  
165 170 175

Ser Ile Ala Thr Leu Met Thr Asp Glu Ile Phe His Asp Val Ala Tyr  
180 185 190

Lys Ala Lys Asp Arg Asn Asp Leu Leu Ser Gly Ile Asp Glu Phe Leu  
195 200 205

Asp Gln Val Thr Val Leu Pro Pro Gly Glu Trp Asp Pro Ser Ile Arg

210	215	220	
Ile Glu Pro Pro Lys Ser Val Pro Ser Gln Glu Lys Arg Lys Ile Pro			
225	230	235	240
Val Phe His Asn Gly Ser Thr Pro Thr Leu Gly Glu Thr Pro Lys Glu			
	245	250	255
Ala Ala His His Ala Gly Pro Glu Leu Gln Arg Thr Gly Arg Leu Phe			
	260	265	270
Gly Gly Leu Ile Leu Asp Ile Lys Arg Lys Ala Pro Phe Phe Leu Ser			
	275	280	285
Asp Phe Lys Asp Ala Leu Ser Leu Gln Cys Leu Ala Ser Ile Leu Phe			
	290	295	300
Leu Tyr Cys Ala Cys Met Ser Pro Val Ile Thr Phe Gly Gly Leu Leu			
305	310	315	320
Gly Glu Ala Thr Glu Gly Arg Ile Val Ser Thr Lys Ile Gly Ser Gly			
	325	330	335
Gln Ala Phe Ser Ser Ser Glu Ala Ser Val Cys Met His Leu Ser His			
	340	345	350
Tyr Ser Tyr Phe Tyr Leu Lys Ser Leu Pro Thr Ala			
	355	360	

<210> 43

<211> 785

<212> PRT

<213> Homo sapiens

<400> 43

Cys Pro Ser Leu Asp Ile Arg Ser Glu Val Ala Glu Leu Arg Gln Leu

1 5 10 15

Glu Asn Cys Ser Val Val Glu Gly His Leu Gln Ile Leu Leu Met Phe

20 25 30

Thr Ala Thr Gly Glu Asp Phe Arg Gly Leu Ser Phe Pro Arg Leu Thr

35 40 45

Gln Val Thr Asp Tyr Leu Leu Leu Phe Arg Val Tyr Gly Leu Glu Ser

50 55 60

Leu Arg Asp Leu Phe Pro Asn Leu Ala Val Ile Arg Gly Thr Arg Leu

65 70 75 80

Phe Leu Gly Tyr Ala Leu Val Ile Phe Glu Met Pro His Leu Arg Asp

85 90 95

Val Ala Leu Pro Ala Leu Gly Ala Val Leu Arg Gly Ala Val Arg Val

100 105 110

Glu Lys Asn Gln Glu Leu Cys His Leu Ser Thr Ile Asp Trp Gly Leu  
115 120 125

Leu Gln Pro Ala Pro Gly Ala Asn His Ile Val Gly Asn Lys Leu Gly  
130 135 140

Glu Glu Cys Ala Asp Val Cys Pro Gly Val Leu Gly Ala Ala Gly Glu  
145 150 155 160

Pro Cys Ala Lys Thr Thr Phe Ser Gly His Thr Asp Tyr Arg Cys Trp  
165 170 175

Thr Ser Ser His Cys Gln Arg Val Cys Pro Cys Pro His Gly Met Ala  
180 185 190

Cys Thr Ala Arg Gly Glu Cys Cys His Thr Glu Cys Leu Gly Gly Cys  
195 200 205

Ser Gln Pro Glu Asp Pro Arg Ala Cys Val Ala Cys Arg His Leu Tyr  
210 215 220

Phe Gln Gly Ala Cys Leu Trp Ala Cys Pro Pro Gly Thr Tyr Gln Tyr  
225 230 235 240

Glu Ser Trp Arg Cys Val Thr Ala Glu Arg Cys Ala Ser Leu His Ser  
245 250 255

Val Pro Gly Arg Ala Ser Thr Phe Gly Ile His Gln Gly Ser Cys Leu  
260 265 270

Ala Gln Cys Pro Ser Gly Phe Thr Arg Asn Ser Ser Ser Ile Phe Cys  
275 280 285

His Lys Cys Glu Gly Leu Cys Pro Lys Glu Cys Lys Val Gly Thr Lys  
290 295 300

Thr Ile Asp Ser Ile Gln Ala Ala Gln Asp Leu Val Gly Cys Thr His  
305 310 315 320

Val Glu Gly Ser Leu Ile Leu Asn Leu Arg Gln Gly Tyr Asn Leu Glu  
325 330 335

Pro Gln Leu Gln His Ser Leu Gly Leu Val Glu Thr Ile Thr Gly Phe  
340 345 350

Leu Lys Ile Lys His Ser Phe Ala Leu Val Ser Leu Gly Phe Phe Lys  
355 360 365

Asn Leu Lys Leu Ile Arg Gly Asp Ala Met Val Asp Gly Asn Tyr Thr  
370 375 380

Leu Tyr Val Leu Asp Asn Gln Asn Leu Gln Gln Leu Gly Ser Trp Val  
385 390 395 400

Ala Ala Gly Leu Thr Ile Pro Val Gly Lys Ile Tyr Phe Ala Phe Asn  
405 410 415



Pro Arg Leu Cys Leu Glu His Ile Tyr Arg Leu Glu Glu Val Thr Gly

420

425

430

Thr Arg Gly Arg Gln Asn Lys Ala Glu Ile Asn Pro Arg Thr Asn Gly

435

440

445

Asp Arg Ala Ala Cys Gln Thr Arg Thr Leu Arg Phe Val Ser Asn Val

450

455

460

Thr Glu Ala Asp Arg Ile Leu Leu Arg Trp Glu Arg Tyr Glu Pro Leu

465

470

475

480

Glu Ala Arg Asp Leu Leu Ser Phe Ile Val Tyr Tyr Lys Glu Ser Pro

485

490

495

Phe Gln Asn Ala Thr Glu His Val Gly Pro Asp Ala Cys Gly Thr Gln

500

505

510

Ser Trp Asn Leu Leu Asp Val Glu Leu Pro Leu Ser Arg Thr Gln Glu

515

520

525

Pro Gly Val Thr Leu Ala Ser Leu Lys Pro Trp Thr Gln Tyr Ala Val

530

535

540

Phe Val Arg Ala Ile Thr Leu Thr Thr Glu Glu Asp Ser Pro His Gln

545

550

555

560

Gly Ala Gln Ser Pro Ile Val Tyr Leu Arg Thr Leu Pro Ala Ala Pro

565

570

575

Thr Val Pro Gln Asp Val Ile Ser Thr Ser Asn Ser Ser Ser His Leu  
580 585 590

Leu Val Arg Trp Lys Pro Pro Thr Gln Arg Asn Gly Asn Leu Thr Tyr  
595 600 605

Tyr Leu Val Leu Trp Gln Arg Leu Ala Glu Asp Gly Asp Leu Tyr Leu  
610 615 620

Asn Asp Tyr Cys His Arg Gly Leu Arg Leu Pro Thr Ser Asn Asn Asp  
625 630 635 640

Pro Arg Phe Asp Gly Glu Asp Gly Asp Pro Glu Ala Glu Met Glu Ser  
645 650 655

Asp Cys Cys Pro Cys Gln His Pro Pro Pro Gly Gln Val Leu Pro Pro  
660 665 670

Leu Glu Ala Gln Glu Ala Ser Phe Gln Lys Lys Phe Glu Asn Phe Leu  
675 680 685

His Asn Ala Ile Thr Ile Pro Ile Ser Pro Trp Lys Val Thr Ser Ile  
690 695 700

Asn Lys Ser Pro Gln Arg Asp Ser Gly Arg His Arg Arg Ala Ala Gly  
705 710 715 720

Pro Leu Arg Leu Gly Gly Asn Ser Ser Asp Phe Glu Ile Gln Glu Asp  
725 730 735

Lys Val Pro Arg Glu Arg Ala Val Leu Ser Gly Leu Arg His Phe Thr  
740 745 750

Glu Tyr Arg Ile Asp Ile His Ala Cys Asn His Ala Ala His Thr Val  
755 760 765

Gly Cys Ser Ala Ala Thr Phe Val Phe Ala Arg Thr Met Pro His Ser  
770 775 780

Arg  
785

<210> 44

<211> 131

<212> PRT

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (7)..(7)

<223> Xaa = any amino acid, unknown or other

<400> 44

Val Lys Cys Pro Gly Thr Xaa Cys Gln Thr Gly Phe Gly Ser Arg His  
1 5 10 15

Leu Val Ser Lys Lys Tyr Leu Phe Glu Tyr Thr Val Val Asn Val His

20

25

30

Leu Ser Gln His His His Leu Leu Ala Leu Asp Val Cys Gly Gly Gly

35

40

45

Leu Ile Pro Asn Pro His Ala Asp Ser Val His Pro Val Cys Cys Leu

50

55

60

Ala Pro Ser Leu Pro Val Lys Leu Gln Thr Leu Arg Ile Trp Thr Ser

65

70

75

80

Arg Ser Val Val Leu Pro Pro Ser Thr Gly Leu Thr Gly Ala Ser Gly

85

90

95

His His Pro Ile Pro Ser Ser Thr Gly Ala Asn Ser Arg Cys Val Thr

100

105

110

Val Ser Ala Cys Gly Leu Gly Ile Arg Pro Pro Pro Gln Thr Ser Arg

115

120

125

Ala Arg Arg

130

&lt;210&gt; 45

&lt;211&gt; 640

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 45

Ala Thr Gln Arg Leu Met Leu Thr Met Gly Arg Leu Gln Leu Val Val

1 5 10 15

Leu Gly Leu Thr Cys Cys Trp Ala Val Ala Ser Ala Ala Lys Leu Gly

20 25 30

Ala Val Tyr Thr Glu Gly Gly Phe Val Glu Gly Val Asn Lys Lys Leu

35 40 45

Gly Leu Leu Gly Asp Ser Val Asp Ile Phe Lys Gly Ile Pro Phe Ala

50 55 60

Ala Pro Thr Lys Ala Leu Glu Asn Pro Gln Pro His Pro Gly Trp Gln

65 70 75 80

Gly Thr Leu Lys Ala Lys Asn Phe Lys Lys Arg Cys Leu Gln Ala Thr

85 90 95

Ile Thr Gln Asp Ser Thr Tyr Gly Asp Glu Asp Cys Leu Tyr Leu Asn

100 105 110

Ile Trp Val Pro Gln Gly Arg Lys Gln Val Ser Arg Asp Leu Pro Val

115 120 125

Met Ile Trp Ile Tyr Gly Gly Ala Phe Leu Met Gly Ser Gly His Gly

130 135 140

Ala Asn Phe Leu Asn Asn Tyr Leu Tyr Asp Gly Glu Glu Ile Ala Thr  
145 150 155 160

Arg Gly Asn Val Ile Val Val Thr Phe Asn Tyr Arg Val Gly Pro Leu  
165 170 175

Gly Phe Leu Ser Thr Gly Asp Ala Asn Leu Pro Gly Asn Tyr Gly Leu  
180 185 190

Arg Asp Gln His Met Ala Ile Ala Trp Val Lys Arg Asn Ile Ala Ala  
195 200 205

Phe Gly Gly Asp Pro Asn Asn Ile Thr Leu Phe Gly Glu Ser Ala Gly  
210 215 220

Gly Ala Ser Val Ser Leu Gln Thr Leu Ser Pro Tyr Asn Lys Gly Leu  
225 230 235 240

Ile Arg Arg Ala Ile Ser Gln Ser Gly Val Ala Leu Ser Pro Trp Val  
245 250 255

Ile Gln Lys Asn Pro Leu Phe Trp Ala Lys Lys Val Ala Glu Lys Val  
260 265 270

Gly Cys Pro Val Gly Asp Ala Ala Arg Met Ala Gln Cys Leu Lys Val  
275 280 285

Thr Asp Pro Arg Ala Leu Thr Leu Ala Tyr Lys Val Pro Leu Ala Gly  
290 295 300

Leu Glu Tyr Pro Met Leu His Tyr Val Gly Phe Val Pro Val Ile Asp  
305 310 315 320

Gly Asp Phe Ile Pro Ala Asp Pro Ile Asn Leu Tyr Ala Asn Ala Ala  
325 330 335

Asp Ile Asp Tyr Ile Ala Gly Thr Asn Asn Met Asp Gly His Ile Phe  
340 345 350

Ala Ser Ile Asp Met Pro Ala Ile Asn Lys Gly Asn Lys Lys Val Thr  
355 360 365

Glu Glu Asp Phe Tyr Lys Leu Val Ser Glu Phe Thr Ile Thr Lys Gly  
370 375 380

Leu Arg Gly Ala Lys Thr Thr Phe Asp Val Tyr Thr Glu Ser Trp Ala  
385 390 395 400

Gln Asp Pro Ser Gln Glu Asn Lys Lys Lys Thr Val Val Asp Phe Glu  
405 410 415

Thr Asp Val Leu Phe Leu Val Pro Thr Glu Ile Ala Leu Ala Gln His  
420 425 430

Arg Ala Asn Ala Lys Ser Ala Lys Thr Tyr Ala Tyr Leu Phe Ser His  
435 440 445

Pro Ser Arg Met Pro Val Tyr Pro Lys Trp Val Gly Ala Asp His Ala  
450 455 460

Asp Asp Ile Gln Tyr Val Phe Gly Lys Pro Phe Ala Thr Pro Thr Gly  
465 470 475 480

Tyr Arg Pro Gln Asp Arg Thr Val Ser Lys Ala Met Ile Ala Tyr Trp  
485 490 495

Thr Asn Phe Ala Lys Thr Gly Asp Pro Asn Met Gly Asp Ser Ala Val  
500 505 510

Pro Thr His Trp Glu Pro Tyr Thr Thr Glu Asn Ser Gly Tyr Leu Glu  
515 520 525

Ile Thr Lys Lys Met Gly Ser Ser Ser Met Lys Arg Ser Leu Arg Thr  
530 535 540

Asn Phe Leu Arg Tyr Trp Thr Leu Thr Tyr Leu Ala Leu Pro Thr Val  
545 550 555 560

Thr Asp Gln Glu Ala Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Ala  
565 570 575

Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Thr Ala Pro Val Pro Pro  
580 585 590

Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly  
595 600 605



Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro

610

615

620

Pro Thr Gly Asp Ser Lys Glu Ala Gln Met Pro Ala Val Ile Arg Phe

625

630

635

640

<210> 46

<211> 659

<212> PRT

<213> Homo sapiens

<400> 46

Ala Thr Gln Arg Leu Met Leu Thr Met Gly Arg Leu Gln Leu Val Val

1

5

10

15

Leu Gly Leu Thr Cys Cys Trp Ala Val Ala Ser Ala Ala Lys Leu Gly

20

25

30

Ala Val Tyr Thr Glu Gly Gly Phe Val Glu Gly Val Asn Lys Lys Leu

35

40

45

Gly Leu Leu Gly Asp Ser Val Asp Ile Phe Lys Gly Ile Pro Phe Ala

50

55

60

Ala Pro Thr Lys Ala Leu Glu Asn Pro Gln Pro His Pro Gly Trp Gln

65 70 75 80

Gly Thr Leu Lys Ala Lys Asn Phe Lys Lys Arg Cys Leu Gln Ala Thr

85 90 95

Ile Thr Gln Asp Ser Thr Tyr Gly Asp Glu Asp Cys Leu Tyr Leu Asn

100 105 110

Ile Trp Val Pro Gln Gly Arg Lys Gln Val Ser Arg Asp Leu Pro Val

115 120 125

Met Ile Trp Ile Tyr Gly Gly Ala Phe Leu Met Gly Ser Gly His Gly

130 135 140

Ala Asn Phe Leu Asn Asn Tyr Leu Tyr Asp Gly Glu Glu Ile Ala Thr

145 150 155 160

Arg Gly Asn Val Ile Val Val Thr Phe Asn Tyr Arg Val Gly Pro Leu

165 170 175

Gly Phe Leu Ser Thr Gly Asp Ala Asn Leu Pro Gly Asn Tyr Gly Leu

180 185 190

Arg Asp Gln His Met Ala Ile Ala Trp Val Lys Arg Asn Ile Ala Ala

195 200 205

Phe Gly Gly Asp Pro Asn Asn Ile Thr Leu Phe Gly Glu Ser Ala Gly

210	215	220	
Gly Ala Ser Val Ser Leu Gln Thr Leu Ser Pro Tyr Asn Lys Gly Leu			
225	230	235	240
Ile Arg Arg Ala Ile Ser Gln Ser Gly Val Ala Leu Ser Pro Trp Val			
245	250	255	
Ile Gln Lys Asn Pro Leu Phe Trp Ala Lys Lys Val Ala Glu Lys Val			
260	265	270	
Gly Cys Pro Val Gly Asp Ala Ala Arg Met Ala Gln Cys Leu Lys Val			
275	280	285	
Thr Asp Pro Arg Ala Leu Thr Leu Ala Tyr Lys Val Pro Leu Ala Gly			
290	295	300	
Leu Glu Tyr Pro Met Leu His Tyr Val Gly Phe Val Pro Val Ile Asp			
305	310	315	320
Gly Asp Phe Ile Pro Ala Asp Pro Ile Asn Leu Tyr Ala Asn Ala Ala			
325	330	335	
Asp Ile Asp Tyr Ile Ala Gly Thr Asn Asn Met Asp Gly His Ile Phe			
340	345	350	
Ala Ser Ile Asp Met Pro Ala Ile Asn Lys Gly Asn Lys Lys Val Thr			
355	360	365	

Glu Glu Asp Phe Tyr Lys Leu Val Ser Glu Phe Thr Ile Thr Lys Gly

370

375

380

Leu Arg Gly Ala Lys Thr Thr Phe Asp Val Tyr Thr Glu Ser Trp Ala

385

390

395

400

Gln Asp Pro Ser Gln Glu Asn Lys Lys Lys Thr Val Val Asp Phe Glu

405

410

415

Thr Asp Val Leu Phe Leu Val Pro Thr Glu Ile Ala Leu Ala Gln His

420

425

430

Arg Ala Asn Ala Lys Ser Ala Lys Thr Tyr Ala Tyr Leu Phe Ser His

435

440

445

Pro Ser Arg Met Pro Val Tyr Pro Lys Trp Val Gly Ala Asp His Ala

450

455

460

Asp Asp Ile Gln Tyr Val Phe Gly Lys Pro Phe Ala Thr Pro Thr Gly

465

470

475

480

Tyr Arg Pro Gln Asp Arg Thr Val Ser Lys Ala Met Ile Ala Tyr Trp

485

490

495

Thr Asn Phe Ala Lys Thr Gly Asp Pro Asn Met Gly Asp Ser Ala Val

500

505

510

Pro Thr His Trp Glu Pro Tyr Thr Thr Glu Asn Ser Gly Tyr Leu Glu

515	520	525
Ile Thr Lys Lys Met Gly Ser Ser Ser Met Lys Arg Ser Leu Arg Thr		
530	535	540
Asn Phe Leu Arg Tyr Trp Thr Leu Thr Tyr Leu Ala Leu Pro Thr Val		
545	550	555 560
Thr Asp Gln Glu Ala Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Ala		
565	570	575
Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Thr Ala Pro Val Pro Pro		
580	585	590
Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly		
595	600	605
Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro		
610	615	620
Pro Thr Gly Cys Pro Pro Arg Val Thr Leu Arg Leu Pro Leu Cys Pro		
625	630	635 640
Pro Gln Met Thr Pro Arg Lys Leu Arg Cys Leu Gln Ser Leu Gly Phe		
645	650	655
Ser Val Pro		

<210> 47

<211> 381

<212> PRT

<213> Homo sapiens

<400> 47

Thr Ser Cys Ser Pro Gln Ile Pro Glu Ser Leu His Tyr Ile Ser Pro

1 5 10 15

Val Gly His Pro Glu Ala Asp Ala His His Gly Ala Pro Ala Thr Gly

20 25 30

Cys Val Gly Pro His Leu Leu Leu Gly Ser Gly Glu Cys Arg Glu Asp

35 40 45

Pro Met Leu His Tyr Val Gly Phe Val Pro Val Ile Asp Gly Asp Phe

50 55 60

Ile Pro Ala Asp Pro Ile Asn Leu Tyr Ala Asn Ala Ala Asp Ile Asp

65 70 75 80

Tyr Ile Ala Gly Thr Asn Asn Met Asp Gly His Ile Phe Ala Ser Ile

85 90 95

Asp Met Pro Ala Ile Asn Lys Gly Asn Lys Lys Val Thr Glu Glu Asp

100 105 110

Phe Tyr Lys Leu Val Ser Glu Phe Thr Ile Thr Lys Gly Leu Arg Gly

115

120

125

Ala Lys Thr Thr Phe Asp Val Tyr Thr Glu Ser Trp Ala Gln Asp Pro

130

135

140

Ser Gln Glu Asn Lys Lys Lys Thr Val Val Asp Phe Glu Thr Asp Val

145

150

155

160

Leu Phe Leu Val Pro Thr Glu Ile Ala Leu Ala Gln His Arg Ala Asn

165

170

175

Ala Lys Ser Ala Lys Thr Tyr Ala Tyr Leu Phe Ser His Pro Ser Arg

180

185

190

Met Pro Val Tyr Pro Lys Trp Val Gly Ala Asp His Ala Asp Asp Ile

195

200

205

Gln Tyr Val Phe Gly Lys Pro Phe Ala Thr Pro Thr Gly Tyr Arg Pro

210

215

220

Gln Asp Arg Thr Val Ser Lys Ala Met Ile Ala Tyr Trp Thr Asn Phe

225

230

235

240

Ala Lys Thr Gly Asp Pro Asn Met Gly Asp Ser Ala Val Pro Thr His

245

250

255

Trp Glu Pro Tyr Thr Thr Glu Asn Ser Gly Tyr Leu Glu Ile Thr Lys

260	265	270
Lys Met Gly Ser Ser Ser Met Lys Arg Ser Leu Arg Thr Asn Phe Leu		
275	280	285
Arg Tyr Trp Thr Leu Thr Tyr Leu Ala Leu Pro Thr Val Thr Asp Gln		
290	295	300
Glu Ala Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Ala Thr Pro Val		
305	310	315 320
Pro Pro Thr Gly Asp Ser Glu Thr Ala Pro Val Pro Pro Thr Gly Asp		
325	330	335
Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro		
340	345	350
Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly		
355	360	365
Asp Ser Lys Glu Ala Gln Met Pro Ala Val Ile Arg Phe		
370	375	380

<210> 48

<211> 400

<212> PRT

<213> Homo sapiens



<400> 48

Thr Ser Cys Ser Pro Gln Ile Pro Glu Ser Leu His Tyr Ile Ser Pro  
1 5 10 15

Val Gly His Pro Glu Ala Asp Ala His His Gly Ala Pro Ala Thr Gly  
20 25 30

Cys Val Gly Pro His Leu Leu Leu Gly Ser Gly Glu Cys Arg Glu Asp  
35 40 45

Pro Met Leu His Tyr Val Gly Phe Val Pro Val Ile Asp Gly Asp Phe  
50 55 60

Ile Pro Ala Asp Pro Ile Asn Leu Tyr Ala Asn Ala Ala Asp Ile Asp  
65 70 75 80

Tyr Ile Ala Gly Thr Asn Asn Met Asp Gly His Ile Phe Ala Ser Ile  
85 90 95

Asp Met Pro Ala Ile Asn Lys Gly Asn Lys Lys Val Thr Glu Glu Asp  
100 105 110

Phe Tyr Lys Leu Val Ser Glu Phe Thr Ile Thr Lys Gly Leu Arg Gly  
115 120 125

Ala Lys Thr Thr Phe Asp Val Tyr Thr Glu Ser Trp Ala Gln Asp Pro  
130 135 140

Ser Gln Glu Asn Lys Lys Lys Thr Val Val Asp Phe Glu Thr Asp Val

145 150 155 160

Leu Phe Leu Val Pro Thr Glu Ile Ala Leu Ala Gln His Arg Ala Asn

165 170 175

Ala Lys Ser Ala Lys Thr Tyr Ala Tyr Leu Phe Ser His Pro Ser Arg

180 185 190

Met Pro Val Tyr Pro Lys Trp Val Gly Ala Asp His Ala Asp Asp Ile

195 200 205

Gln Tyr Val Phe Gly Lys Pro Phe Ala Thr Pro Thr Gly Tyr Arg Pro

210 215 220

Gln Asp Arg Thr Val Ser Lys Ala Met Ile Ala Tyr Trp Thr Asn Phe

225 230 235 240

Ala Lys Thr Gly Asp Pro Asn Met Gly Asp Ser Ala Val Pro Thr His

245 250 255

Trp Glu Pro Tyr Thr Thr Glu Asn Ser Gly Tyr Leu Glu Ile Thr Lys

260 265 270

Lys Met Gly Ser Ser Ser Met Lys Arg Ser Leu Arg Thr Asn Phe Leu

275 280 285

Arg Tyr Trp Thr Leu Thr Tyr Leu Ala Leu Pro Thr Val Thr Asp Gln

290 295 300

Glu Ala Thr Pro Val Pro Pro Thr Gly Asp Ser Glu Ala Thr Pro Val  
305 310 315 320

Pro Pro Thr Gly Asp Ser Glu Thr Ala Pro Val Pro Pro Thr Gly Asp  
325 330 335

Ser Gly Ala Pro Pro Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro  
340 345 350

Val Pro Pro Thr Gly Asp Ser Gly Ala Pro Pro Val Pro Pro Thr Gly  
355 360 365

Cys Pro Pro Arg Val Thr Leu Arg Leu Pro Leu Cys Pro Pro Gln Met  
370 375 380

Thr Pro Arg Lys Leu Arg Cys Leu Gln Ser Leu Gly Phe Ser Val Pro  
385 390 395 400

<210> 49

<211> 503

<212> PRT

<213> Homo sapiens

<400> 49

Phe Gln Met Gly Lys Lys Ile Asn Lys Leu Phe Cys Phe Asn Phe Leu

1 5 10 15

Val Gln Cys Phe Arg Gly Lys Ser Lys Pro Ser Lys Cys Gln Ile Arg

20 25 30

Lys Lys Val Lys Asn His Ile Glu Arg Leu Leu Asp Thr Glu Asp Glu

35 40 45

Leu Ser Asp Ile Gln Thr Asp Ser Val Pro Ser Glu Val Arg Asp Trp

50 55 60

Leu Ala Ser Thr Phe Thr Arg Lys Met Gly Met Thr Lys Lys Lys Pro

65 70 75 80

Glu Glu Lys Pro Lys Phe Arg Ser Ile Val His Ala Val Gln Ala Gly

85 90 95

Ile Phe Val Glu Arg Met Tyr Arg Lys Thr Tyr His Met Val Gly Leu

100 105 110

Ala Tyr Pro Ala Ala Val Ile Val Thr Leu Lys Asp Val Asp Lys Trp

115 120 125

Ser Phe Asp Val Phe Ala Leu Asn Glu Ala Ser Gly Glu His Ser Leu

130 135 140

Lys Phe Met Ile Tyr Glu Leu Phe Thr Arg Tyr Asp Leu Ile Asn Arg

145 150 155 160

Phe Lys Ile Pro Val Ser Cys Leu Ile Thr Phe Ala Glu Ala Leu Glu

165 170 175

Val Gly Tyr Ser Lys Tyr Lys Asn Pro Tyr His Asn Leu Ile His Ala

180 185 190

Ala Asp Val Thr Gln Thr Val His Tyr Ile Met Leu His Thr Gly Ile

195 200 205

Met His Trp Leu Thr Glu Leu Glu Ile Leu Ala Met Val Phe Ala Ala

210 215 220

Ala Ile His Asp Tyr Glu His Thr Gly Thr Thr Asn Asn Phe His Ile

225 230 235 240

Gln Thr Arg Ser Asp Val Ala Ile Leu Tyr Asn Asp Arg Ser Val Leu

245 250 255

Glu Asn His His Val Ser Ala Ala Tyr Arg Leu Met Gln Glu Glu Glu

260 265 270

Met Asn Ile Leu Ile Asn Leu Ser Lys Asp Asp Trp Arg Asp Leu Arg

275 280 285

Asn Leu Val Ile Glu Met Val Leu Ser Thr Asp Met Ser Gly His Phe

290 295 300

Gln Gln Ile Lys Asn Ile Arg Asn Ser Leu Gln Gln Pro Glu Gly Ile  
305 310 315 320

Asp Arg Ala Lys Thr Met Ser Leu Ile Leu His Ala Ala Asp Ile Ser  
325 330 335

His Pro Ala Lys Ser Trp Lys Leu His Tyr Arg Trp Thr Met Ala Leu  
340 345 350

Met Glu Glu Phe Phe Leu Gln Gly Asp Lys Glu Ala Glu Leu Gly Leu  
355 360 365

Pro Phe Ser Pro Leu Cys Asp Arg Lys Ser Thr Met Val Ala Gln Ser  
370 375 380

Gln Ile Gly Phe Ile Asp Phe Ile Val Glu Pro Thr Phe Ser Leu Leu  
385 390 395 400

Thr Asp Ser Thr Glu Lys Ile Val Ile Pro Leu Ile Glu Glu Ala Ser  
405 410 415

Lys Ala Glu Thr Ser Ser Tyr Val Ala Ser Ser Ser Thr Thr Ile Val  
420 425 430

Gly Leu His Ile Ala Asp Ala Leu Arg Arg Ser Asn Thr Lys Gly Ser  
435 440 445

Met Ser Asp Gly Ser Tyr Ser Pro Asp Tyr Ser Leu Ala Ala Val Asp

450

455

460

Leu Lys Ser Phe Lys Asn Asn Leu Val Asp Ile Ile Gln Gln Asn Lys

465

470

475

480

Glu Arg Trp Lys Glu Leu Ala Ala Gln Glu Ala Arg Thr Ser Ser Gln

485

490

495

Lys Cys Glu Phe Ile His Gln

500

&lt;210&gt; 50

&lt;211&gt; 612

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 50

Leu Pro Leu Leu His Ala Gly Phe Asn Arg Arg Phe Met Glu Asn Ser

1

5

10

15

Ser Ile Ile Ala Cys Tyr Asn Glu Leu Ile Gln Ile Glu His Gly Glu

20

25

30

Val Arg Ser Gln Phe Lys Leu Arg Ala Cys Asn Ser Val Phe Thr Ala

35

40

45

Leu Asp His Cys His Glu Ala Ile Glu Ile Thr Ser Asp Asp His Val

50

55

60

Ile Gln Glu Trp Gln Gly Val Tyr Tyr Ala Arg Arg Lys Ser Gly Asp

65

70

75

80

Ser Ile Gln Gln His Val Lys Ile Thr Pro Val Ile Gly Gln Gly Gly

85

90

95

Lys Ile Arg His Phe Val Ser Leu Lys Lys Leu Cys Cys Thr Thr Asp

100

105

110

Asn Asn Lys Gln Ile His Lys Ile His Arg Asp Ser Gly Asp Asn Ser

115

120

125

Gln Thr Glu Pro His Ser Phe Arg Tyr Lys Asn Arg Arg Lys Glu Ser

130

135

140

Ile Asp Val Lys Ser Ile Ser Ser Arg Gly Ser Asp Ala Pro Ser Leu

145

150

155

160

Gln Asn Arg Arg Tyr Pro Ser Met Ala Arg Ile His Ser Met Thr Ile

165

170

175

Glu Ala Pro Ile Thr Lys Val Ile Asn Ile Ile Asn Ala Ala Gln Glu

180

185

190

Asn Ser Pro Val Thr Val Ala Glu Ala Leu Asp Arg Val Leu Glu Ile

195

200

205



Leu Arg Thr Thr Glu Leu Tyr Ser Pro Gln Leu Gly Thr Lys Asp Glu

210

215

220

Asp Pro His Thr Ser Asp Leu Val Gly Gly Leu Met Thr Asp Gly Leu

225

230

235

240

Arg Arg Leu Ser Gly Asn Glu Tyr Val Phe Thr Lys Asn Val His Gln

245

250

255

Ser His Ser His Leu Ala Met Pro Ile Thr Ile Asn Asp Val Pro Pro

260

265

270

Cys Ile Ser Gln Leu Leu Asp Asn Glu Glu Ser Trp Asp Phe Asn Ile

275

280

285

Phe Glu Leu Glu Ala Ile Thr His Lys Arg Pro Leu Val Tyr Leu Gly

290

295

300

Leu Lys Val Phe Ser Arg Phe Gly Val Cys Glu Phe Leu Asn Cys Ser

305

310

315

320

Glu Thr Thr Leu Arg Ala Trp Phe Gln Val Ile Glu Ala Asn Tyr His

325

330

335

Ser Ser Asn Ala Tyr His Asn Ser Thr His Ala Ala Asp Val Leu His

340

345

350

Ala Thr Ala Phe Phe Leu Gly Lys Glu Arg Val Lys Gly Ser Leu Asp

355

360

365

Gln Leu Asp Glu Val Ala Ala Leu Ile Ala Ala Thr Val His Asp Val

370

375

380

Asp His Pro Gly Arg Thr Asn Ser Phe Leu Cys Asn Ala Gly Ser Glu

385

390

395

400

Leu Ala Val Leu Tyr Asn Asp Thr Ala Val Leu Glu Ser His His Thr

405

410

415

Ala Leu Ala Phe Gln Leu Thr Val Lys Asp Thr Lys Cys Asn Ile Phe

420

425

430

Lys Asn Ile Asp Arg Asn His Tyr Arg Thr Leu Arg Gln Ala Ile Ile

435

440

445

Asp Met Val Leu Ala Thr Glu Met Thr Lys His Phe Glu His Val Asn

450

455

460

Lys Phe Val Asn Ser Ile Asn Lys Pro Met Ala Ala Glu Ile Glu Gly

465

470

475

480

Ser Asp Cys Glu Cys Asn Pro Ala Gly Lys Asn Phe Pro Glu Asn Gln

485

490

495

Ile Leu Ile Lys Arg Met Met Ile Lys Cys Ala Asp Val Ala Asn Pro

500

505

510

✓ Cys Arg Pro Leu Asp Leu Cys Ile Glu Trp Ala Gly Arg Ile Ser Glu

515

520

525

Glu Tyr Phe Ala Gln Thr Asp Glu Glu Lys Arg Gln Gly Leu Pro Val

530

535

540

Val Met Pro Val Phe Asp Arg Asn Thr Cys Ser Ile Pro Lys Ser Gln

545

550

555

560

Ile Ser Phe Ile Asp Tyr Phe Ile Thr Asp Met Phe Asp Ala Trp Asp

565

570

575

Ala Phe Ala His Leu Pro Ala Leu Met Gln His Leu Ala Asp Asn Tyr

580

585

590

Lys His Trp Lys Thr Leu Asp Asp Leu Lys Cys Lys Ser Leu Arg Leu

595

600

605

Pro Ser Asp Ser

610

<210> 51

<211> 218

<212> PRT

<213> Homo sapiens

<400> 51

Lys Tyr Ser Asn Asn Ser Trp Arg Tyr Leu Ser Asn Arg Leu Leu Ala

1

5

10

15

Pro Ser Asp Ser Pro Glu Trp Leu Ser Phe Asp Val Thr Gly Val Val

20

25

30

Arg Gln Trp Leu Ser Arg Gly Gly Glu Ile Glu Gly Phe Arg Leu Ser

35

40

45

Ala His Cys Ser Cys Asp Ser Arg Asp Asn Thr Leu Gln Val Asp Ile

50

55

60

Asn Gly Phe Thr Thr Gly Arg Arg Gly Asp Leu Ala Thr Ile His Gly

65

70

75

80

Met Asn Arg Pro Phe Leu Leu Leu Met Ala Thr Pro Leu Glu Arg Ala

85

90

95

Gln His Leu Gln Ser Ser Arg His Arg Arg Ala Leu Asp Thr Asn Tyr

100

105

110

Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys Val Arg Gln Leu Tyr Ile

115

120

125

Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp Ile His Glu Pro Lys Gly

130

135

140

Tyr His Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr Ile Trp Ser Leu

145

150

155

160

Asp Thr Gln Tyr Ser Lys Val Leu Ala Leu Tyr Asn Gln His Asn Pro

165

170

175

Gly Ala Ser Ala Ala Pro Cys Cys Val Pro Gln Ala Leu Glu Pro Leu

180

185

190

Pro Ile Val Tyr Tyr Val Gly Arg Lys Pro Lys Val Glu Gln Leu Ser

195

200

205

Asn Met Ile Val Arg Ser Cys Lys Cys Ser

210

215

<210> 52

<211> 185

<212> PRT

<213> Homo sapiens

<400> 52

Lys Tyr Ser Asn Asn Ser Trp Arg Tyr Leu Ser Asn Arg Leu Leu Ala

1

5

10

15

Pro Ser Asp Ser Pro Glu Trp Leu Ser Phe Asp Val Thr Gly Val Val

20

25

30

Arg Gln Trp Leu Ser Arg Gly Gly Glu Ile Glu Gly Phe Arg Leu Ser

35

40

45

Ala His Cys Ser Cys Asp Ser Arg Asp Asn Thr Leu Gln Val Asp Ile

50

55

60

Asn Gly Phe Thr Thr Gly Arg Arg Gly Asp Leu Ala Thr Ile His Gly

65

70

75

80

Met Asn Arg Pro Phe Leu Leu Leu Met Ala Thr Pro Leu Glu Arg Ala

85

90

95

Gln His Leu Gln Ser Ser Arg His Arg Arg Ala Leu Asp Thr Asn Tyr

100

105

110

Cys Phe Ser Ser Thr Glu Lys Asn Cys Cys Val Arg Gln Leu Tyr Ile

115

120

125

Asp Phe Arg Lys Asp Leu Gly Trp Lys Trp Ile His Glu Pro Lys Gly

130

135

140

Tyr His Ala Asn Phe Cys Leu Gly Pro Cys Pro Tyr Ile Trp Ser Leu

145

150

155

160

Asp Thr Gln Tyr Ser Lys Leu Asn Glu Gln Asn Leu Ile Gln Glu Val

165

170

175

Pro Asn Ile Trp Gln Arg Glu Val Gly

180

185